NTP
National Toxicology Program

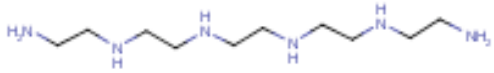
Study Nomination: Pentaethylenehexamine

Dr. Scott Masten

NTP Board of Scientific Counselors Meeting

December 6, 2007

Pentaethylenehexamine (PEHA)



- Nominated by the NCI based on:
  - High production volume
  - Lack of adequate toxicological data
  - Positive mutagenicity data
- Used as a chemical intermediate in production of resins, floor coatings, hardeners, and corrosion inhibitors
  - U.S. production 1-10 million lbs/year 1998 and 2002
- Human exposure potential
  - Workers and consumers - during production processes or use of PEHA-containing products
  - No specific exposure data
- Toxicological data
  - Moderate acute oral toxicity
  - Irritant, corrosive, skin sensitizer
  - Mutagenic in *Salmonella*
  - No repeat dose toxicity or ADME studies

Study Recommendation

- No studies of PEHA at this time
  - Irritancy and corrosivity would likely preclude humane *in vivo* toxicity studies at sufficiently challenging doses, though studies may be feasible at lower exposure levels
  - Although there are no occupational exposure guidelines or hazardous waste regulations for PEHA, there is information in the literature documenting skin and eye irritancy and potential skin sensitization
  - Additional *in vitro* toxicity studies, as requested by the nominator, would add little to the existing body of knowledge

Questions and Comments